

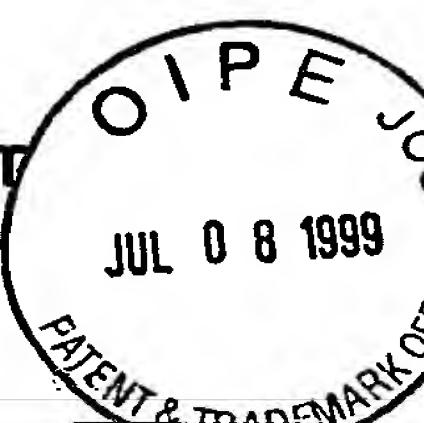
Atty.
 Dkt. No.

Mr.
 Mrs.
 Dr.

Client Ref.

256628

INFORMATION DISCLOSURE STATEMENT
 BY APPLICANT



Date: July 8, 1999

Page 1 of 1

Applicant: FIRE et al.

Appl. No.: 09/215,257

Filing Date: December 18, 1998

Examiner: Unknown

Group Art Unit: 1649

U.S. PATENT DOCUMENTS

Examiner's Initials*	Document Number	Date MM/YYYY	Name (Family Name of First Inventor)	Class	Sub Class	Filing Date (if appropriate)
AR						
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FOREIGN PATENT DOCUMENTS

	Document Number	Date MM/YYYY	Country	Inventor Name	Class	SubClass	English Abstract	Translation Readily Available
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DPN	MR	RATCLIFF F ET AL: "A similarity between viral defense and gene silencing in plants", SCIENCE, vol. 276, no. 93, 6 June 1997, pages 1558-1560, XP002095874, see the whole document.		
	NR	FIRE, A. ET AL. "Production of antisense RNA leads to effective and specific inhibition of gene expression in C. elegans muscle", DEVELOPMENT (CAMBRIDGE, UK) (1991), 113(2), 503-14 XP002103600 cited in the application, see page 508, right-hand column, paragraph 2, see page 509, right-hand column - page 511, right-hand column, see page 512, 'Discussion' and figure 7.		
	OR	MATZKE M A ET AL.: "HOW AND WHY DO PLANTS INACTIVATE HOMOLOGOUS (TRANS) GENES?", PLANT PHYSIOLOGY, vol. 107, no. 3, 1 March 1995, pages 679-685, XP002021174, see page 680, left-hand column, paragraph 3 - right-hand column, paragraph 1, see page 682.		
	PR	FIRE A ET AL: "Potent and specific genetic interference by double - stranded RNA in Caenorhabditis elegans", NATURE, (1998 FEB 19) 391 (6669) 806-11., XP002095876 , cited in the application, see the whole document.		
	QR	MONTGOMERY M K ET AL: "Double - stranded RNA as a mediator in sequence-specific genetic silencing and co-specific genetic silencing and co - suppression", TRENDS IN GENETICS, (1998 JUL) 14 (7) 255-8., XP004124680, cited in the application, see the whole document.		
	RR	TIMMONS L ET AL: "Specific interference by ingested dsRNA", NATURE, (1998 OCT 29) 395 (6705) 854., XP002103601, cited in the application, see the whole document.		

Examiner

Date Considered:

5/31/00

*EXAMINER: Initial if citation considered, whether or not citation is in conformance with MPEP § 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to Applicant.

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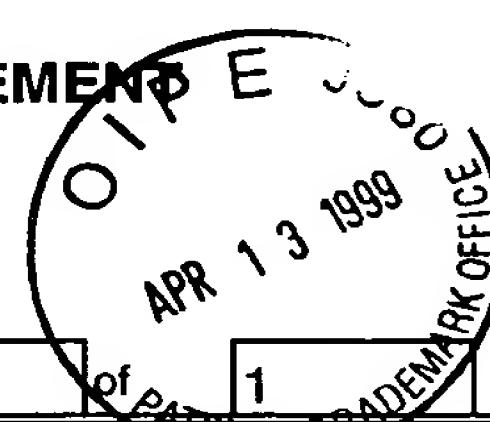
Date: April 13, 1999

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Applicant: FIRE et al.

Appln. No.: 09/215,257

Filing Date: December 18, 1998

Examiner: Unknown

Group Art Unit: 1649

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DPN	AR 5,258,369	11/1993	Carter			
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	CR 5,795,715	08/1998	Livache			
	DR 5,874,555	02/1999	Dervan			
	ER 5,107,065	04/1992	Shewmaker			
	FR 5,190,931	03/1993	Inouye			
	GR 5,208,149	05/1993	Inouye			
	HR 5,272,065	12/1993	Inouye			
▼	IR 5,453,566	09/1995	Shewmaker			
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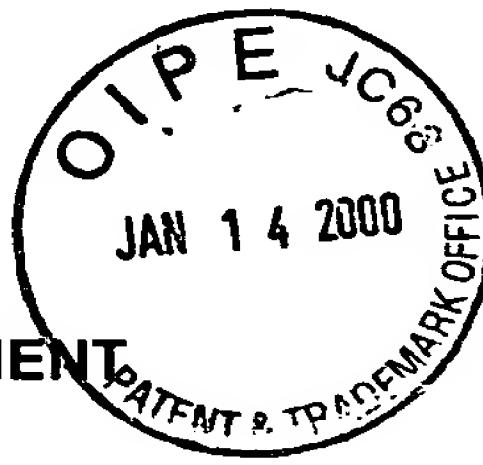
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Examiner  Date Considered: 5/31/00

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FORM 1449 (modified)
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Atty. Dkt. No.	M#	Client Ref.
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Applicant: FIRE et al. JAN 18 2000		
Appln. No.: 09/215,257 TECH CENTER 1600/2900		
Filing Date: December 18, 1998		
Examiner: Unknown Group Art Unit: 1649		

Date: January 14, 2000

Page 1 of 1

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Examiner's Initials*	Document Number	Date MM/YYYY	Name (Family Name of First Inventor)	Class	Sub Class	Filing Date (if appropriate)
DPN	AR 4,469,863	09/1984	TS'O et al.	████████	████████	
↓	BR 4,511,713	04/1985	MILLER et al.	████████	████████	
CR	5,034,323	07/1991	JORGENSEN et al.	████████	████████	
DR	5,365,015	11/1994	GRIERSON et al.	████████	████████	
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DPN	YR	Samuel E. Driver, Gregory S. Robinson, Jean Flanagan, Wei Shen, Lois E.H. Smith, David W. Thomas, and Peter C. Roberts, "Oligonucleotide-based inhibition of embryonic gene expression," Nature Biotechnology, Vol. 17, December 1999, pages 1184-1187	✓	
↓	TR	Alejandro Sanchez Alvarado and Phillip A. Newmark, "Double-stranded RNA specifically disrupts gene expression during planarian regeneration," Proc. Natl. Acad. Sci. USA, Vol. 96, April 1999, Developmental Biology, pages 5049-5054		
↓	UR	James D. Thompson, "Shortcuts from gene sequence to function," Nature Biotechnology, Vol. 17, December 1999, pages 1158-1159		
	VR			
	WR			
	XR			

Examiner  Date Considered: 5/31/00

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256628

Applicant: FIRE et al.

Appln. No.: 09/215,257

Filing Date: December 18, 1998

Examiner: Unknown

Group Art Unit: 1649

Date: March 28, 2000

Page 1 of 4

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U.S. PATENT DOCUMENTS

Examiner's Initials*	Document Number	Date MM/YYYY	Name (Family Name of First Inventor)	Class	Sub Class	Filing Date (if appropriate)
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DPN	RR	Baum et al., "Inhibition of protein synthesis in reticulocyte lysates by a double-stranded RNA component in HeLa mRNA" Biochem Biophys Res Comm, July 18, 1983, 114:41-49.				
	SR	Pratt et al., "Regulation of in vitro translation by double-stranded RNA in mammalian cell mRNA preparations" Nucl Acids Res, February 25, 1988, 16:3497-3510.				
	TR	Klaff et al., "RNA structure and the regulation of gene expression" Plant Mol Biol, 1996, 32:89-106.				
	UR	Dolnick, "Naturally occurring antisense RNA" Pharmacol Ther, 1997, 75:179-184.				
	VR	Wagner et al., "Double-stranded RNA poses puzzle" Nature, February 19, 1998, 391:744-745.				
	WR	Harbinder et al., "Genetically targeted cell disruption in <i>Caenorhabditis elegans</i> " Proc Natl Acad Sci USA, November 1997, 94:13128-13133.				

Examiner *Karen C. Jackson*

Date Considered: *07-31-02*

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Applicant: FIRE et al.

Appln. No.: 09/215,257

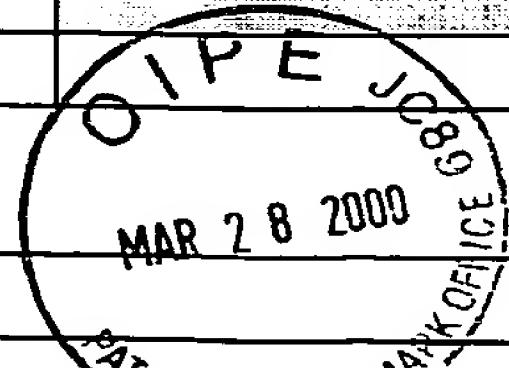
Filing Date: December 18, 1998

Examiner: Unknown

Group Art Unit: 1649

Date: March 28, 2000

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—	SR	Kumar and Carmichael, "Antisense RNA: Function and fate of duplex RNA in cells of higher eukaryotes" Microbiol Mol Biol Rev, December 1988, 62:1415-1434.	✓			
—	TR	Suzuki et al., "Activation of target-tissue immune-recognition molecules by double-stranded polynucleotides" Proc Natl Acad Sci USA, March 1999, 96:2285-2290.	✓			
—	UR	Hunter, "A touch of elegance with RNAi" Curr Biol, June 17, 1999, 9:R440-R442.	✓			
—	VR	Tuschi et al., "Targeted mRNA degradation by double-stranded RNA in vitro" Genes Dev, December 15, 1999, 13:3191-3197.	✓			
↓	WR	Fire, "RNA-triggered gene silencing" Trends Genet, September 1999, 15:358-363.	✓			

Examiner Karen A Larson

Date Considered: 07-31-02

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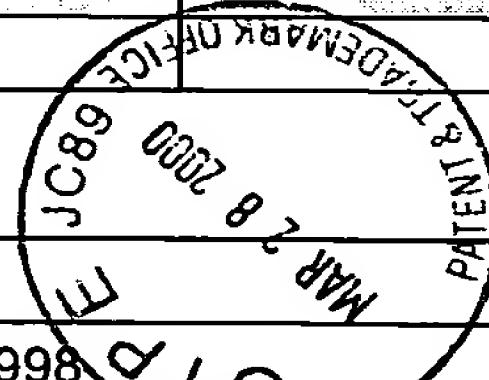
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**INFORMATION DISCLOSURE STATEMENT
BY APPLICANT**

Applicant: FIRE et al.



Appln. No.: 09/215,257

Filing Date: December 18, 1998

Examiner: Unknown

Group Art Unit: 1649

Date: March 28, 2000

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U.S. PATENT DOCUMENTS

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DPN	QR	Tabara et al., "The rde-1 Gene, RNA interference, and transposon silencing in <i>C. elegans</i> " Cell, October 15, 1999, 99:123-132.				
—	RR	Ketting et al., "mut-7 of <i>C. elegans</i> , required for transposon silencing and RNA interference, is a homolog of Werner syndrome helicase and RNaseD" Cell, October 15, 1999, 99:133-141.				
—	SR	Bosher et al., "RNA interference can target pre-mRNA: Consequences for gene expression in a <i>Caenorhabditis elegans</i> operon" Genetics, November 1999, 153:1245-1256.				
—	TR	Thompson, "Shortcuts from gene Sequence to function" Nature Biotechnology, December 1999, 17:1158-1159.				
—	UR	Driver et al., "Oligonucleotide-based inhibition of embryonic gene expression" Nature Biotechnology, December 1999, 17:1184-1187.				
—	VR	Wargelius et al., "Double-stranded RNA induces specific developmental defects in zebrafish embryos" Biochem Biophys Res Comm, 1999, 263:156-161.				

Examiner *Karen A Jacobson*

Date Considered: 01-31-02

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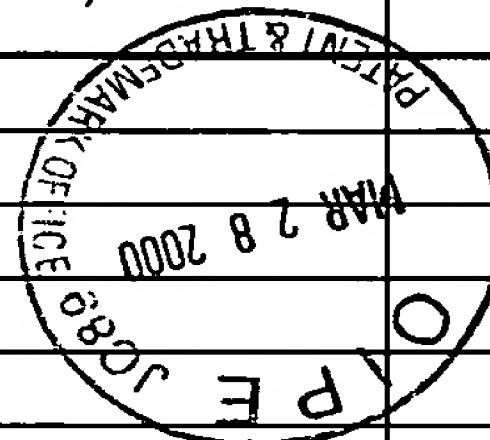
Group Art Unit: 1649

Date: March 28, 2000

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DPN	UR	Li et al., "Double-stranded RNA injection produces null phenotypes in zebrafish" Developmental Biology, January 15, 2000, 217:394-405.		
	VR	Wianny et al., "Specific interference with gene function by double-stranded RNA in early mouse development" Nature Cell Biology, February 2000, 2:70-75.	✓	
	WR	Catalanotto et al., "Gene silencing in worms and fungi" Nature, March 16, 2000, 404:245.	✓	
	XR	Hammond et al., "An RNA-directed nuclease mediates post-transcriptional gene silencing in <i>Drosophila</i> cells" Nature, March 16, 2000, 404:293-296.	✓	
↓	YR	Ketting and Plasterk, "A genetic link between co-suppression and RNA interference in <i>C. elegans</i> " Nature, March 16, 2000, 404:296-298.	✓	

Examiner

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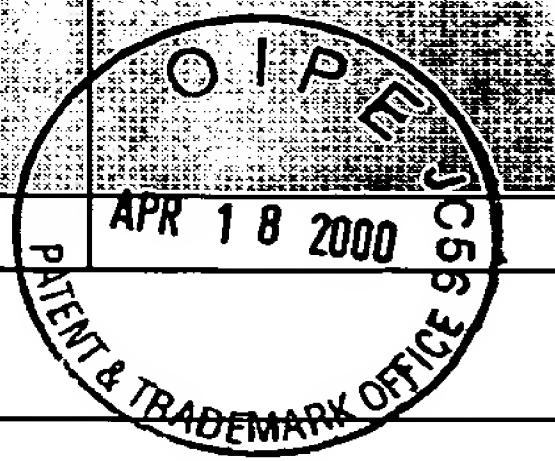
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**INFORMATION DISCLOSURE STATEMENT
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Date: April 18, 2000

Page **1** of **1**

Applicant: FIRE et al.

Appln. No.: 09/215,257

Filing Date: December 18, 1998

Examiner: B. Campbell

Group Art Unit: 1632

U.S. PATENT DOCUMENTS

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DPN - NR	WO 99/61631	12/1999	PCT	HEIFETZ et al				
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